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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,943	04/20/2005	Ayrookaran J. Poulose	GC716-2-US	1170

7590 12/08/2005

Kamrin T MacKnight
Genencor International Inc
925 Page Mill Road
Palo Alto, CA 94304-1013

EXAMINER

MOORE, WILLIAM W

ART UNIT	PAPER NUMBER
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1656

DATE MAILED: 12/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/500,943

Applicant(s)

POULOSE ET AL.

Examiner

William W. Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-10 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction is required under 35 U.S.C. §§ 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted. The Groups are as follows

1. Claims 1-10, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 27 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
2. Claims 1-10, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 45 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
3. Claims 1-10, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 170 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
4. Claims 1-10, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 181 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
5. Claims 1-10, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 251 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
6. Claims 1-10, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 271 in the sequence of subtilisin BPN', a

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detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.

The inventions listed as Groups 1-6 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: No modified subtilisin of Groups 1-6 is disclosed to have a distinguishing, hence special, technical feature conferred by an amino acid substitution at a recited position where the functional characteristic required of each modified subtilisin, an unchanged net charge relative to that of the precursor subtilisin, may be provided by (a) charge-altering substitution(s) at other, unrecited, positions in a subtilisin known in the prior art. See the International Search Report filed with the application on 7 July 2004 for the same claims in the corresponding International Application PCT/US03/1448. Thus none of the inventions of Groups 1-6 share a same or corresponding technical feature that is special.

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1. The species are as follows:

- A. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 1.
- B. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 14.
- C. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 49.
- D. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 61.
- E. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 87.

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- F. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 100.
- G. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 102.
- H. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 118.
- I. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 128.
- J. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 204.
- K. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 258.

The claims are deemed to correspond to the species listed above in the following manner: Claims 1-10 are generic with respect to one or more species of modified subtilisins of Groups 1-6 where each of claims 1-10 corresponds to at least one of the species of subtilisins modified by an additional amino acid substitution.

The several species lack the same or corresponding special technical features for the following reasons: No doubly-substituted subtilisin of claims 1-10 of Groups 1-6 is disclosed to have a distinguishing, hence special, technical feature conferred by an additional substitution at another amino acid position where the functional characteristic required of each modified subtilisin, an unchanged net charge relative to that of the precursor subtilisin, may be provided by (a) charge-altering substitution(s) at other, unrecited, positions in a subtilisin known in the prior art. See the International Search Report filed with the application on 7 July 2004 for the same claims in the corresponding International Application PCT/US03/1448.

A telephone call was made to Ms. Kamrin T. MacKnight on 7 December 2005 to request an oral election to the above restriction requirement, but did not result in an election being made. Applicant is advised that the reply to this requirement to be

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complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Conclusion

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William W. Moore whose telephone number is 571.272.0933 and whose FAX number is 571.273.0933. The examiner can normally be reached Monday through Friday between 9:00AM and 5:30PM EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisory Primary Examiner, Dr. Kathleen Kerr, can be reached at 571.272.0931. The official FAX number for all communications for the organization where this application or proceeding is assigned is 571.273.8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571.272.1600.

William W. Moore
8 December 2005


NASHAAT T. NASHED PHD.
PRIMARY EXAMINER